Amendments to the Claims

Please amend the claims of the present application as set forth below.

Claims 1 – 16 were originally filed.

New claims 17 – 34 have been added herein.

Claims 1 – 34 are pending.

1. (Canceled)

2. (Currently Amended) The method as recited in Claim ~~14~~14, wherein the graphics processor is configured to count votes in a resulting Hough transform voting buffer.

3. (Currently Amended) The method as recited in Claim ~~14~~14, wherein the graphics processor is configured to convolve image values and provide corresponding results to the host processor.

4. (Currently Amended) ~~The method as recited in Claim 1~~A method comprising:

providing image data; and

performing a Hough transform on the image data using a host processor and an operatively configured graphics processor, wherein the graphics processor performs an alpha-blending operation that selectively increments accumulators that correspond to parameter combinations that are likely associated with an observation.

5. (Currently Amended) The method as recited in claim ~~1~~4, wherein the graphics processor performs a histogram computation to find a maxima value in a Hough transform voting buffer.

6. (Canceled)

7. (Currently Amended) The apparatus as recited in Claim ~~6~~9, ~~further comprising a local memory operatively coupled to the graphics processor and~~ wherein the graphics processor is configured to count votes in a resulting Hough transform voting buffer within the local memory.

8. (Currently Amended) The apparatus as recited in Claim ~~6~~9, wherein the graphics processor is configured to convolve image values and provide corresponding results to the host processor.

9. (Currently Amended) ~~The apparatus as recited in Claim 6~~An apparatus comprising:

a host processor configured to provide image data;

a graphics processor operatively coupled to the host processor and configured to perform selected steps of a Hough transform algorithm on the image data in association with the host processor; and~~, further comprising~~

a local memory operatively coupled to the graphics processor, ~~and~~ wherein the graphics processor performs an alpha-blending operation that selectively

increments accumulators within the local memory that correspond to parameter combinations that are likely associated with an observation.

10. (Currently Amended) The apparatus as recited in claim 69, ~~further comprising a local memory operatively coupled to the graphics processor and~~ wherein the graphics processor performs a histogram computation to find a maxima value in a Hough transform voting buffer within the local memory.

11. (Canceled)

12. (Currently Amended) The computer-readable medium as recited in Claim ~~11~~14, having computer-executable instructions that cause the graphics processor to count votes in a resulting Hough transform voting buffer.

13. (Currently Amended) The computer-readable medium as recited in Claim ~~11~~14, having computer-executable instructions that cause the graphics processor is to convolve image values and provide corresponding results to the host processor.

14. (Currently Amended) ~~The computer-readable medium as recited in Claim 11~~A computer-readable medium having computer-executable instructions for performing steps comprising:

providing image data;

performing a Hough transform on the image data using a host processor and an operatively configured graphics processor; and~~, having computer-executable instructions that cause~~

causing the graphics processor to perform an alpha-blending operation that selectively increments accumulators that correspond to parameter combinations that are likely associated with an observation.

15. (Currently Amended) The computer-readable medium as recited in claim ~~11~~14, having computer-executable instructions that cause the graphics processor to perform a histogram computation to find a maxima value in a Hough transform voting buffer.

16. (Canceled)

17. (New) The method as recited in Claim 4 wherein the performing operation comprises template matching.

18. (New) The method as recited in Claim 4 wherein the alpha-blending operation adds a tent function to the accumulators, the tent function characterizing errors associated with the observation.

19. (New) The method as recited in Claim 4 wherein the alpha-blending operation adds a Gaussian function to the accumulators, the Gaussian function characterizing errors associated with the observation.

20. (New) The method as recited in Claim 4 wherein the graphics processor performs the alpha-blending operation on multiple channels in parallel.

21. (New) The method as recited in Claim 4 wherein the graphics processor comprises a 3-Dimensional accelerator.

22. (New) The method as recited in Claim 4 wherein the accumulators are arranged in an array wherein related parameters are contiguous.

23. (New) The apparatus as recited in Claim 9 wherein the graphics processor is configured to perform template matching.

24. (New) The apparatus as recited in Claim 9 wherein the alpha-blending operation adds a tent function to the accumulators, the tent function characterizing errors associated with the observation.

25. (New) The apparatus as recited in Claim 9 wherein the alpha-blending operation adds a Gaussian function to the accumulators, the Gaussian function characterizing errors associated with the observation.

26. (New) The apparatus as recited in Claim 9 wherein the graphics processor performs the alpha-blending operation on multiple channels in parallel.

27. (New) The apparatus as recited in Claim 9 wherein the graphics processor comprises a 3-Dimensional accelerator.

28. (New) The apparatus as recited in Claim 9 wherein the accumulators are arranged in an array wherein related parameters are contiguous.

29. (New) The computer-readable medium as recited in Claim 14 wherein the performing operation comprises template matching.

30. (New) The computer-readable medium as recited in Claim 14 wherein the alpha-blending operation adds a tent function to the accumulators, the tent function characterizing errors associated with the observation.

31. (New) The computer-readable medium as recited in Claim 14 wherein the alpha-blending operation adds a Gaussian function to the accumulators, the Gaussian function characterizing errors associated with the observation.

32. (New) The computer-readable medium as recited in Claim 14 wherein the graphics processor performs the alpha-blending operation on multiple channels in parallel.

33. (New) The computer-readable medium as recited in Claim 14 wherein the graphics processor comprises a 3-Dimensional accelerator.

34. (New) The computer-readable medium as recited in Claim 14 wherein the accumulators are arranged in an array wherein related parameters are contiguous.